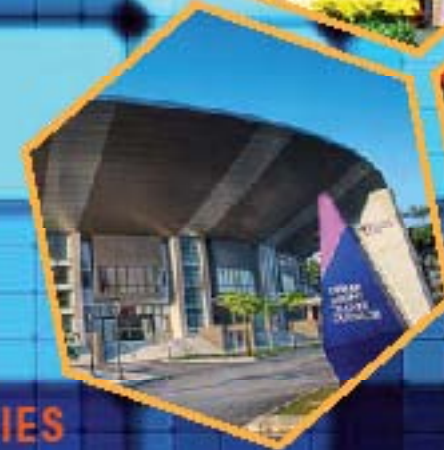


THE DOCTORAL RESEARCH

ABSTRACTS

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1**Name** : Hasli Bin Ibrahim**Title** : Modelling Time Performance for Construction of Public Building Projects in Peninsular Malaysia**Faculty** : Civil Engineering**Supervisor** : Associate Prof. Ir. Dr. Aminuddin Baki (MS)

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Completing project on time is symbolic of an efficient construction project. However, project delay is a common issue in construction industry today. The failure in estimating reasonable construction duration will jeopardize the successful completion of the projects. There are needs to establish a tool in order to estimate construction time performance. Thus, this study focuses on developing a model to predict reasonable construction duration in order to improve construction time performance for public building projects in Peninsular Malaysia. This study cover four types of public sector building projects namely; school and education building; public building; health and medical building; and security building. A document analysis method and quantitative approach were applied. Original contract duration and actual contract duration of 416 completed public building projects were used to assess the level of Time Performance Index (TPI). Independent variables

(i.e. original contract duration, cost, complexity and location) had significant relationship to construction time performance were then regressed against TPI using multivariate analysis to establish time performance models. The regression models was successfully developed for school and education; public building; health and medical; and security building with level of R^2 between 86.7% and 94.1% respectively. This level indicates that the models developed were significant and appropriate. The models were then validated via two approaches; namely numerical validation using actual completed building projects, and subjective validation using selected respondents by interview technique. Both numerical validation and subjective validation show that the models developed were acceptable and would be regarded as a valuable tool and workable to predict duration for construction of public sector building projects. The construction time performance of the public projects in Peninsular Malaysia was found to be affected more by variables related to excusable delays than project characteristic variables. The attributes that had significant relationship with time performance should be given attention by practitioner in order to minimise the occurrence of delay. The findings of this study is an important step in moving closer to a better understanding of construction time performance and also will provide statistical regression model available for public sector building projects.